

## **ABSTRACT**

The time of the detection and enumeration of microorganisms after their growth on solid or liquid nutrient media depends on the visibility of colony or suspension by naked eye or optical instruments. Visibility depends mainly on light absorbance by layer of cells in colony or suspension. The growth of microorganisms in micro channels needs much less amount of cells to reach the same light absorbance as done by regular growth. Smaller amount of cells needs shorter time for their reproduction. Therefore detection and enumeration of cells could be done in several times faster than by previously known growth methods. Also the time of detection and enumeration could be shortened by additional usage of chemical substances or physical factors that increase light absorbance or instill fluorescence. To reach needful light absorbance the volume of one micro channel must be extremely small - only in several thousands times larger than the volume of one cell and longevity of channel must be in several times longer than diameter of a channel.